STUDIES ON AUSTRALIAN MOLLUSCA.

PART III.

(Continued from p. 513.)

BY C. HEDLEY, F.L.S.

(Plate xlviii.)

MATHILDA ROSAE, n.sp.

(Plate xlviii., figs. 13, 14.)

Shell tall, turreted, upper whorls subulate, final whorls spread; perforate only for the last two whorls. No perfect shell has come under my notice. A survey of a series of imperfect shells of different ages suggests that fourteen or fifteen whorls are the proper complement. The youngest of the series has a heterostrophe apex; as growth proceeds the upper whorls are lost. Colour white (bleached?). Suture channelled. Sculpture: longitudinal sculpture is missing; on the last whorl are six sharp, elevated, equidistant keels, their own breadth apart, the anterior keel the largest, the posterior least, on preceding whorls are fewer keels. Base smooth and flattened. Aperture very oblique, nearly triangular, beaked on the exterior angle by the extension of the peripheral rib, patulous at the junction of base and pillar. The specimen drawn, of which only seven whorls remain, is 5 mm. in length and 2·8 in breadth.

Hab.—Balmoral Beach, Middle Harbour, near Sydney; several dead shells picked out of shell sand by the late Mrs. C. T. Starkey.

The perforation, want of longitudinal sculpture and enlargement of the peripheral rib, amply distinguish this species from its congeners. It probably lives in deep water.

The species is named in memory of my late friend Mrs. C. T. Starkey, who made a large collection of the minute marine shells of this neighbourhood. By her desire the collection was handed to me for study, after her decease.

DRILLIA HOWITTI, Pritchard & Gatliff.

Pritchard & Gatliff, Proc. R. Soc. Vic. xii., 1899, p. 101, pl. 8, f. 2.

A perfect adult specimen from Sydney Harbour is contained in Mrs. Starkey's collection. I have determined it by comparison with authentic specimens received from Mr. Gatliff. Dr. Cox has also shown me specimens dredged in 25 fathoms off Sydney Heads.

BITTIUM MINIMUM, T. Woods.

Tenison Woods, Proc. R. Soc. Tasmania, 1877, p. 123.

(Fig. 20.)

A specimen of this species has been handed to me by Mr. J. Brazier, who took it in an old bottle from 8 fathoms off the Bottle and Glass Rocks, Sydney Harbour, May 22nd, 1886.

For the better recognition of this species I add a drawing of a Tasmanian specimen, kindly lent to me for the purpose by Miss Lodder.

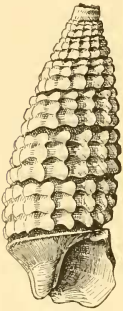

Fig. 20.

CYCLOSTREMA CHAROPA, Tate.

Tate, Trans. R. Soc. S. Aust., 1899, p. 217, pl. vii., figs. 2a-2c.

Specimens of this obtained May 22nd, 1886, in 8 fathoms off the Bottle and Glass Rocks, Sydney Harbour, have been shown me by Mr. J. Brazier.

LEUCONOPSIS INERMIS, n.sp.

(Plate xlviii., fig. 15.)

Shell ovate, solid, imperforate, colour dull white. Whorls six, gradually increasing, last large, compressed below the suture, flattened at the periphery and rounded at the base. Sutures channelled. Sculpture: the surface is usually much abraded, where it is intact fine, raised hair lines, twice or thrice their own diameter apart, cross the shell obliquely. A few faint and distant spiral grooves are perceptible. Traces are present of a thin, membranous yellow epidermis. Aperture auriculate, slightly oblique. Outer lip sinuous, neither thickened nor reflected, columella broadened at the base and a little reflected. A small but sharp and deeply seated plication occurs on the body whorl, anterior to the centre; immediately in front of this, and deeper still, is a second, ill-developed fold. A heavy callus is spread on the body whorl. Length 3 mm.; breadth 1·16 mm.

Hab.—The material at my disposal was collected in the neighbourhood of Sydney by Mr. J. Brazier as follows:—(1) East side of Double Bay; one specimen; type: (2) Under a small stone on a "samphire flat" at the head of Tambourine Bay, in company with *Ophicardelus*; three living specimens: (3) In shell sand, Cook's Landing Place, Botany Bay; two dead shells.

Type to be preserved in the Australian Museum.

The species before us is the second of the genus *Leuconopsis*, founded by Hutton (Trans. N. Z. Inst., xvi., 1883 [1884], p. 213) for the reception of *Leuconia obsoleta*, Hutton, (Journ. de Conch. xxvi, 1878, p. 43, and Man. N.Z. Moll., p. 34). The name implies affinity to *Leuconia*, but to my mind the genus nearest approaches *Auriculus*.

Capt. Hutton, whose kindness to his fellow naturalists is unfailing, has sent me, for comparison with *L. inermis*, a set of co-types of *L. obsoleta* from Auckland, New Zealand. One of these, whose length is 2·24 and breadth 1·44 mm., is figured (fig. 16) for comparison with the novelty. The Australian species differs by its feeble columellar plait, more whorls, absolutely larger size, but relatively more slender proportions.

BLAUNERIA LEONARDI, Crosse.

Crosse, Journ. de Conch. xx., 1872, pp. 71 and 357, pl. xvi., f. 4.

(Plate xlviii., fig. 9.)

The auriculoid genus *Blauneria*[*] has not hitherto been recognised as a constituent of the Australian fauna. Specimens are

---

[*] Shuttleworth, Berner. Mitth. Diagn. Neue Moll., 1854, p. 148.

MARINE BIOLOGICAL LABORATORY LIBRARY WOODS HOLE, MASS.

now before me, gathered by Mr. J. Brazier from Blackwood Bay, Mount Adolphus Island, and from Warrior Island, both in Torres Straits. Though twice the size I find no specific difference between these and examples from Noumea of Crosse's species. The individual figured is from Warrior Island, and measures 4·5 mm. in length, and 1·5 mm. in breadth.

STENOTHYRA AUSTRALIS, n.sp.

(Plate xlviii., fig. 10.)

Shell small, subperforate, ovate, thin, translucent, very glossy, rather flattened. Colour brown. Whorls five, rapidly increasing, separated by an impressed suture. Last whorl disproportionately large, comprising three-quarters of the whole shell, bulging at the periphery, rapidly and deeply descending for the last half whorl. The earlier whorls are distantly, spirally grooved, the later are quite smooth. The translucency of the shell presents by optical illusion a subsutural band. The strangled aperture is nearly perpendicular, regularly oval, bevelled and thickened within. Length, 3·68 mm.; breadth, 2·32 mm.

Hab.—The half dozen examples seen were handed to me for description by Mr. J. Brazier. He procured them from drifted mangrove leaves on the beach at Bowen, Queensland.

Type to be preserved in the Australian Museum.

The genus *Stenothyra* is not generally known as a constituent of the Australian fauna, and is not included in Prof. Tate's excellent census (Trans. Roy. Soc. S. Aust. xi., pp. 70-81). A description of an Australian species, *S. frustillum*, has, however, been published by Benson (Ann. Mag. N.H. (2) xvii, 1856, p. 498) as follows :—

"Testa vix rimata, minima, ovato-conoidea, politissima, sub lente obsoletissime oblique striatula, albida, translucente, spira convexo-conoidea, apice obtusulo, sutura leviter impressa; anfractibus 4 convexiusculis, ultimo ventricosiore, minime compresso, dimidium testæ non æquante, antice descendente, basi rotundata; apertura subrotundata, marginibus peristomatis acutiusculis.

Operculum—? Long. 1½, diam. 1 mill. *Hab.*—In Australia. Mus. Cuming.

S. frustillum has, I believe, not been again collected, noted in literature or illustrated. Since Cuming's localities are so dubious, the species may not really be Australian. *S. australis* differs from *S. frustillum* in size, the number of whorls, the proportion of the last whorl, the sculpture and the colour.

DAPHNELLA TASMANICA, T. Woods.

T. Woods, Proc. R. Soc. Tasmania, 1875, p. 145.

(Fig. 21.)

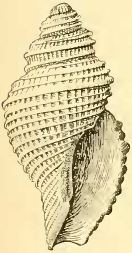

Fig. 21.

The Rev. H. D. Atkinson has kindly lent me a specimen, which, I understand, is one of the original lot of this species. From it the accompanying figure was made. It seems probable to me that *Clathurella lamellosa*, Sowerby,* was based on the young of this.

To this species Messrs. Pritchard and Gatliff have united *Mangilia jacksonensis*, Angas.† A comparison of the descriptions of Woods and Angas shows that such synonymy could only rest on mistaken identification.

HYDATINA TASMANICA, Beddome.

Akera tasmanica, Beddome, Proc. R. Soc. Tasmania, 1882, p 169.

(Fig. 22.)

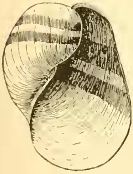

Fig. 22.

To the kindness of Miss M. Lodder I am again indebted for the opportunity of illustrating an unfigured species. Prof. Tate, upon inspecting this drawing, pointed out to me that the species would be better referred to *Hydatina*.

---

*Sowerby, Proc. Mal. Soc. II., 1876, p. 28, pl. iii., f. 11.

†Pritchard & Gatliff, Proc. R. Soc. Vic., xii., 1900, p. 175.

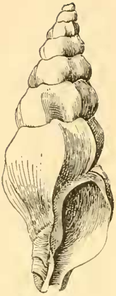

Fig. 23.

TROPHON BRAZIERI, T. Woods.

T. Woods, Proc. R. Soc. Tasmania, 1875, p. 136.

(Fig. 23.)

An authentic specimen furnished by Mr. J. Brazier afforded the accompanying illustration.

EUTHRIA CLARKEI, T. Woods.

T. Woods, Proc. R. Soc. Tasmania, 1875, p. 138.

(Fig. 24.)

The present figure is derived from an example in Miss Lodder's collection.

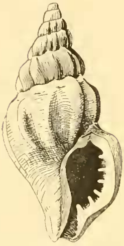

Fig. 24.

SCHISMOPE PULCHRA, Petterd.

Petterd, Journ. of Conch. iv., 1884, p. 139.

(Fig. 25.)

Miss Lodder kindly lent me the original of my sketch.

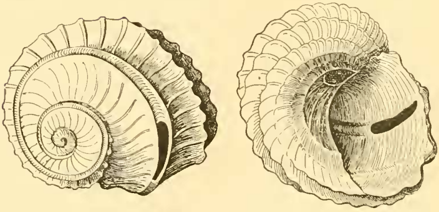

Fig 25.

IRAVADIA AUSTRALIS, n. sp.

(Plate xlviii., fig. 12.)

Shell subcylindrical, rimate, decollate; remaining whorls four and a half, rapidly increasing; covered by a dense and rather glossy brown epidermis. Sculpture: the last whorl is encircled by eight sharp, spiral, nearly equidistant keels, about four times their own width apart. On the penultimate whorl there are five of such. These are perpendicularly crossed by fine raised hair lines, which bead the keels and lattice the interstices. Aperture white within, a little oblique, ovate, subchanelled posteriorly, peristome entire, reflected, fortified without by a thick, outstanding varix. Length, 5·3 mm ; breadth, 2·25 mm.

Hab.—Bowen, Queensland. Half a dozen examples from fresh water (J. Brazier).

Type to be preserved in the Australian Museum.

The above is the first of the genus *Iravadia*[*] to be recorded from Australia. I have not the advantage of seeing Indian shells, but, according to published figures, the Australian species seems to differ by more cylindrical form.

Both *Stenothyra* and *Iravadia* may be added to the list of Torresian types; in other words, are stock which Australia derived from Malaysia.

PETTERDIANA THAANUMI, Pilsbry.

Pilsbry, The Nautilus, xiii., Ap., 1900, p. 144.

(Plate xlviii., fig. 11.)

I am indebted to the author of this species for co-types obtained near Cairns, Queensland. With these I have compared a series from the Bellenden Ker Range in the same neighbourhood. The type is 3·3 mm. in length and has four whorls; the shells from the Bellenden Ker are larger, the example figured herewith being 4·75 mm. long, have an extra half whorl and the aperture is more expanded. In other respects the shells are alike, so that I conclude that the specimens from the Bellender Ker represent the adult state of the species.

---

[*] Blanford, Journ. As. Soc. Bengal, Pt. ii., 1867, p. 56, Pl. 2, ff. 13, 14. Nearly allied if not identical seems *Hydrorissoia*, Bavay, Journ. de Conch. xliii., 1895, p. 90.

CALLOMPHALA GLOBOSA, n.sp.

(Fig. 26.)

This species differs from *C. lucida* by being smaller, higher in proportion, and closely engraved with numerous fine, spiral striæ. Maj. diam., 2·4; minor diam., 2·1; height, 2mm.

Hab.—Near Darnley Island, Torres Straits, in 30 fathoms, three specimens collected by J. Brazier.

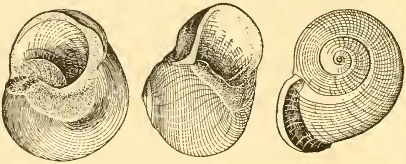

Fig. 26.

For this species I revive the name *Callomphala** proposed as a subgenus for *Neritula lucida*, Adams & Angas.

Owing to the name being given slight prominence in the text it has been overlooked by all subsequent writers. Neither Fischer nor Scudder has included it in their respective works. I am under obligation to Dr. H. A. Pilsbry for directing my attention to it. The prominent lip suggested to me that *Callomphala* is related to *Liotia*, but as both Dall and Pilsbry agree that its affinities are, as the original description stated, with *Teinostoma*, I defer to their better judgment.

---

* Adams & Angas, P.Z.S., 1864, p. 35.

STYLIFER PETTERDI, Tate and May.

Tate & May, Trans. R. Soc. S. Aust. xxiv., 1900, p. 96; *S. robusta*, Petterd, Journn. of Conchology, iv., 1884, p. 140; *non* Pease, 1860.

(Fig. 27.)

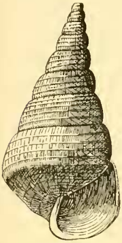

Fig. 27.

Under the name of *Stilifer tumida*, Petterd, Mr. Brazier exhibited to this Society, August 29th, 1894, a shell from the neighbourhood of Wollongong, N. S. Wales. This name has, I believe, not been published by Petterd. The Wollongong shell which I have lately examined is certainly *S. robusta*, Petterd. As the species has never been illustrated, I now present a drawing of a Tasmanian example kindly lent me for the purpose by Miss Lodder.

ENDODONTA CONCINNA, n.sp.

(Plate xlviii., figs. 1-3.)

Shell minute, thin, subdiscoidal, spire scarcely elevated, umbilicus broad and deep. Colour pale yellow, faintly and obscurely mottled with brown. Whorls four, rounded, excavated at the suture and a little flattened at the base. The first half whorl is tilted from the plane of adult growth. Umbilical crater a third of the diameter of the shell, exposing previous whorls, umbilical suture deeply enfolded. Sculpture: no spirals exist; the first half whorl is bare of radial sculpture, which commences abruptly as fine, sharp, raised hair lines, about twice their diameter apart, sinuate at the suture as usual in the group; of these I count 98 on the last whorl; their interstices have a few very fine lines, parallel to the main sculpture. Height, ·56; major diameter, 1·48; minor, 1·24 mm.

Hab.—Bundaberg, Queensland; collected by Dr. T. H. May.

Type to be preserved in the Australian Museum.

CHLAMYS FENESTRATA, n.sp.

(Plate xlviii., figs. 17-19.)

Shell small, very solid, convex, almost equilateral and equivalve, inferior margin well rounded. Both auricles well developed, angular, with a few faint radii. Colour rose with irregular white splashes. Sculpture : the central third of the valve is occupied by a deep and broad furrow flanked by two broad and high ridges. On either side of these are two comparatively insignificant ridges with their complementary furrows. Each main radius and sulcus has three or four secondary radii, those in the hollows smaller and wider apart. The whole surface of the valve is microscopically ornamented by fine, close, raised threads which cross the radials at right angles. Fig. 19 shows a portion of the central furrow highly magnified.

The interior is stained deep rose. The adductor scar is deep. The impress of the main radii extend as furrows to the umbo, while the secondary radii merely denticulate the margin. The left valve develops a few pectinidial teeth. The chondrophore lies within the margin of the hinge plate. On either side of it and beneath the ligament is a narrow, vertically striated tract. Beneath this again is a slight cardinal rib. Height, 20 mm.; length, 20 mm.

Hab.—The valve figured was dredged by Mr. J. Brazier in 18 fathoms off Ball's Head, Sydney Harbour. Another specimen was taken in 8 fathoms off Nelson's Head, Port Stephens, N.S.W.

Type to be presented to the Australian Museum.

The definition of Fischer's section Æquipecten appears to include this species, which more resembles *Pecten fasciculatus*, Hinds (Reeve, Conch. Icon. viii., Pl. xxxv., f. 171), than any figure I can find.

ASAPHIS CONTRARIA, Deshayes.

Psammobia contraria, Deshayes, Catalogue des Mollusques de l'île de la Réunion, 1863, p. 11, Pl. i., ff. 20-21.

(Plate xlviii., figs. 4-8.)

Nearly forty years ago Deshayes received a single right valve of this remarkable shell from Bourbon. For its reception Dr. von Martens afterwards instituted the section *Heteroglypta*.* Mr. J. Brazier has handed to me a specimen with both valves in natural apposition, and slightly larger than the type, which he collected in shell sand at the mouth of the Nambuccra River, N.S.W. The extreme rarity of the shell, its unexpected occurrence in Australia, and the brevity of published information are sufficient reasons for again figuring and describing it. Its inclusion in *Asaphis* is due to Dall.†

Shell small and thin, oblong, rather compressed, equivalve, a little inequilateral, slightly gaping behind. Colour pale yellow. Umbones sharp, almost touching, transversely directed. Ligament short, elevated above the shell. Lunule minute, sharply excavated, lanceolate. The regular growth lines, which can be traced everywhere, are masked by an elaborate superficial ornament like the pattern of *Cytherea pectinata.* The tip of the beak has a few regular, concentric ridges, past which the sculpture is differentiated into four areas : a small anterior, a large medio-anterior, a still larger medio-posterior and a small posterior. The anterior panel, limited by an imaginary line drawn from the beak to the middle of the anterior margin, has a few, widely separated, well developed, longitudinal ridges. To form the next panel each ridge turns at right angles, narrows to a fine thread and runs a direct course to the ventral margin; in this medio-anterior panel there are about twenty of such narrow, close, oblique, raised threads, which become smaller and closer as they approach the umbo. The medio-posterior panel extends from a line vertically below the beak to a line from the beak to the centre of the posterior margin, and is occupied by a dozen rather strong, widely spaced, straight, radiating ridges. The posterior panel contains low, broad and strong folds, meeting the radiating ridges at an acute angle.

---

*Martens, Moll. Maur. 1880, p. 331.

† Dall, Trans. Wagner Inst. iii., pt. v. 1900, p. 981.

The radial sculpture slightly crenulates the ventral margin and furrows the interior. Pallial sinus rounded, deep, extending to the centre of the valve. Lateral hinge teeth absent Cardinals : in the right, one, in the left, two; the right and posterior left notched and furrowed; the anterior left large and fitting into a deep socket in the opposite valve. Length, 16 ; height, 11 ; breadth of conjoined valves, 7·5 mm.

EXPLANATION OF PLATE XLVIII.

Figs, 1-3.—*Endodonta concinna*, Hedley; in various aspects.
Figs. 4-8.—*Asaphis contraria*, Deshayes; in different aspects, with details of hinge and muscle scars.
Fig. 9.—*Blauneria leonardi*, Crosse.
Fig. 10.—*Stenothyra australis*, Hedley.
Fig. 11.—*Petterdiana thaanumi*, Pilsbry.
Fig. 12.—*Iravadia australis*, Hedley.
Figs. 13-14.—*Mathilda rosæ*, Hedley; in different aspects.
Fig. 15.—*Leuconopsis inermis*, Hedley.
Fig. 16.—*Leuconopsis obsoleta*, Hutton.
Figs. 17-19.—*Chlamys fenestrata*, Hedley; exterior, hinge and sculpture.
All enlarged and to various proportions.